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Park et al.

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[54] MANUFACTURING METHODS OF LIQUID CRYSTAL DISPLAYS

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[58] Field of Search 438/30, 158, 160, 438/949

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[57] ABSTRACT

An ITO (indium tin oxide) layer and a negative photoresist are deposited sequentially on the substrate 100 having a gate wire, a storage wire, a data wire and a storage electrode. The negative photoresist is developed through front exposure and the ITO layer is etched to form a pixel electrode. Because the portions of negative photoresist exposed to light remain after development, pixel defects due to particles placed between pixel regions are reduced. Both the rear exposure and the front exposure may be used. In the rear exposure, it is difficult to remain the portions of the ITO layer at the positions corresponding to the contact portion of the drain electrode and the pixel electrode, the storage line, the gate pads and the data pads. Accordingly, the front exposure is then executed by using the first mask having openings thereon. The negative photoresist is developed, and the ITO layer is patterned. After etching the ITO layer, because the portion of the ITO layer outside the display region remains as a whole, the portions of the ITO layers on the gate pads and the data pads remains through front exposure using a positive photoresist.

12 Claims, 23 Drawing Sheets

